

FREEBORN, S. B.

The Mosquitoes of California. Univ. of California Publications, Technical Bulletins, Entomology, 3 : 333-460, figs. 1-41. 1926.

HERMS, W. B.

Medical Entomology. The Macmillan Co., New York. p. 222. 1939.

HOWITT, B. F.

Viruses of Equine and of St. Louis Encephalitis in Relationship to Human Infections in California 1937-1938. Amer. Jour. Pub. Hlth., 29 : 1083-1097. 1939.

MADSEN, D. E. & KNOWLTON, G. F.

Mosquito Transmission of Equine Encephalomyelitis. Jour. Amer. Vet. Med. Assn. 86 : 662-666. 1935.

MADSEN, D. E., KNOWLTON, G. F., & ROWE, J. A.

Further Studies on Transmission of Equine Encephalomyelitis by Mosquitoes. Jour. Amer. Vet. Med. Assn. 89 : 187-196. 1936.

MAIL, G. A.

The Mosquitoes of Montana. Montana State College Agric. Exp. Sta. Bull. No. 288, pp. 1-72, figs. 1-18. 1934.

MATHESON, R.

A Handbook of the Mosquitoes of North America. Charles C. Thomas, Springfield, Ill. pp. 1-268, figs. 1-23, pls. 1-25 (145 ills.). 1929.

DESCRIPTIONS OF NEW NORTH AMERICAN PLECOPTERA.¹

By JOHN F. HANSON,
Amherst, Massachusetts.

The following two species are described from material loaned to me by Dr. C. P. Alexander of the Massachusetts State College, Mr. Nathan Banks of the Museum of Comparative Zoology at Harvard University, Mr. P. P. Babiş of Cornell University, and Dr. Ashley B. Gurney of the Bureau of Entomology and Plant Quarantine, to all of whom I am deeply grateful for making this work possible. Both species belong to the genus *Dictyopterygella*, known to be present on this continent only since 1937, with the description of *D. knowltoni* Frison.

Dictyopterygella washingtoniana, sp. nov.

Figs. 1, 2, 3, 7.

Male.—General color brown, abdomen and pterothorax darkest. Length of body 14 mm.; wings extending to apex of abdomen. Head with two distinctly separate yellow spots. Pronotum with median yellow stripe. Spinulae present on ninth and tenth tergites. Subanal lobes greatly produced into boot-shaped structures.

Head with a yellow area within the ocellar triangle and another slightly larger

¹ Contribution from the Department on Entomology, Massachusetts State College, Amherst, Massachusetts.

and distinctly separate one in the occipital region. Lateral ocelli slightly farther from each other than from median ocellus or from compound eyes. Antennae dark brown, slightly lighter at base, about 45-segmented.

Thorax brown except for a median longitudinal yellow stripe of uniform width on the pronotum. Pronotum narrower than head, transverse and rectangular or slightly narrowed posteriorly, with a variable pattern of prominent embossings at the sides of the median stripe. Legs uniformly brown. Wing membrane clear, veins brown. Wings not brachypterous, venation (fig. 1) very similar to that of *Isogenus*. In fore wing cubito-anal crossvein situated at about its own length beyond the apex of the anal cell, tips of branches of radial sector turned cephalad.

Abdomen uniformly dark brown to black. Subanal lobes remarkably produced rearward and approximated closely along the mesal line, in lateral view (fig. 7) somewhat boot-shaped, being turned upward at the tip; hairy. Tergites nine and ten bearing blunt spinulae. Posterior margin of tenth tergite evenly rounded, not cleft. Ninth sternite very slightly produced over tenth sternite. Cerci light brown, 20- to 25-segmented.

Female.—Similar to male in color and general morphological details. Longer than male; body length 18 mm. No spinulae on abdominal tergites. Subgenital plate very broad, evenly rounded or truncate at apex, and produced almost to apex of ninth abdominal sternite.

Holotype, male.—Lakes of the Clouds, Mt. Washington, N. H., altitude 5000 feet, June 17, 1936 (*Alexander*); type in Mass. State College Collection. Allotopotype, female.—June 24, 1930 (*Darlington*); type in M. C. Z. Paratopotypes.—7 males (*Alexander*); 2 males, June 23–24, 1930 (*Darlington*); 1 male, no date given (*Emerton*); 2 males, 2 females, July 4, 1907 (from Cornell Collection, collector unknown); 7 males, 32 females, June 30, 1939; 11 males, 24 females, July 1, 1939 (*Marion Smith*); 21 males, 13 females, June 17, 1939 (*D. Arenberg*).

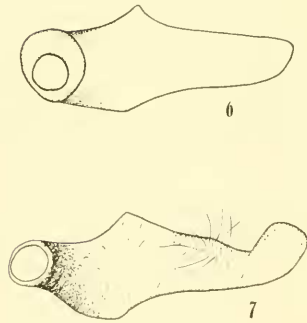
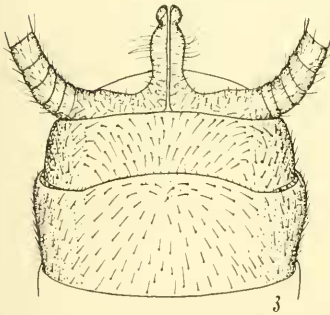
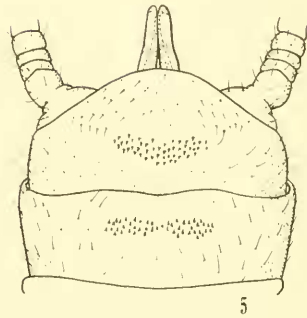
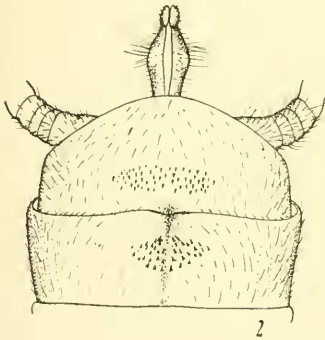
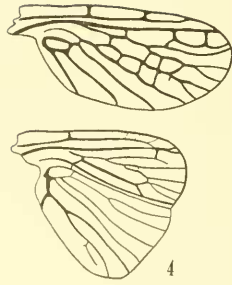
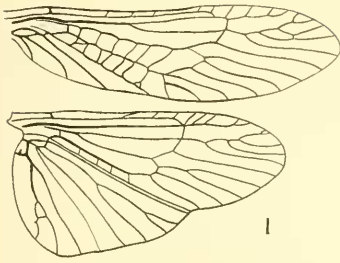
Dictyopterygella hudsonica, sp. nov.

Figs. 4, 5, 6.

Male.—General coloration dark brown. Length of body 12 mm. A triangular yellow area in ocellar triangle distinct from a transverse yellow area in occipital region of head. Wings brachypterous, anal fan of hind wing relatively large. Spinulae present on ninth and tenth abdominal tergites. Subanal lobes extremely produced rearward, approximated, together subcylindrical.

Head with a yellow triangular area within the ocellar triangle distinctly separated by the postfrontal sutures from a much larger, transverse, yellow area in the occipital region. A distinct yellow spot on the frons at base of each antenna. Lateral ocelli slightly farther from each other than from median ocellus or from compound eyes. Antennae light brown, about 45-segmented.

Thorax brown. Median longitudinal yellow stripe of pronotum widest near its posterior end, lateral embossings not very prominent. Pronotum narrower than head, slightly transverse, narrowed posteriorly. Legs uniformly light



EXPLANATION OF PLATE.

- Fig. 1. *Dictyoptyerygella washingtoniana*, sp. nov., venation.
- Fig. 2. Same, male terminalia, dorsal view.
- Fig. 3. Same, male terminalia, ventral view.
- Fig. 4. *Dictyoptyerygella hudsonica*, sp. nov., male venation.
- Fig. 5. Same, male terminalia, dorsal view.
- Fig. 6. Same, male subanal lobe, lateral view.
- Fig. 7. *Dictyoptyerygella washingtoniana*, sp. nov., subanal lobe, lateral view.

brown. Wings brachypterous; fore wings 8 mm. in length, extending to the second abdominal segment; hind wings 6 mm. in length and extending to the fourth abdominal segment. Venation (fig. 4) abnormal; intercubital crossveins absent except for one in the left hind wing of the holotype, subcosta extends nearly to apex of wing, anal fan of hind wing relatively large. Cubito-anal crossvein of fore wing situated at a distance of about its own length distad of apex of anal cell.

Abdomen uniformly dark brown, cerci light brown. Subanal lobes remarkably produced rearward, approximated, together subcylindrical; glabrous. Tergites nine and ten each bearing an area of spinulae. Posterior margin of tenth tergite evenly rounded. Ninth sternite very slightly produced into a truncate subgenital plate. Cerci light brown, longest cercus of holotype broken off at twentieth segment.

Holotype, male.—Baker Lake, Can., lat. 64° N., long. 95° W, Aug. 10, 1936 (*Dutilly*); type in U. S. N. M. No. 53247.

Both species described above are easily distinguished from a specimen of *D. knowltoni* (Centennial, Wyo., about July 1, 1936, *Blake*), loaned to me by the U. S. National Museum. They differ from it in the absence of lateral protuberances which give to the subanal lobes of *D. knowltoni* the mushroom appearance, mentioned by Frison. *D. hudsonica* differs from *D. washingtoniana* in having brachypterous wings, subcylindrical subanal probes, and a broad transverse yellow area on the occiput; while *D. washingtoniana* has normal wings, boot-shaped subanal probes, and a small occipital yellow area.

D. hudsonica is apparently very closely related to the European *D. septentrionis* Klp. from which, as well as I can judge from the literature, it differs only in the shape of the subanal lobes which are expanded into a knob at the tip in *D. septentrionis* but not in *D. hudsonica*. I have been unable to obtain a specimen of *D. septentrionis* for comparison. Since the possibility of a species of North American Plecoptera being identical with a European species is very slight, I am describing the present specimen as new.

TWO NEW SPECIES OF THE GENUS HERMETIA (STRATIOMYIIDAE—DIPTERA).

By CHARLES T. GREENE,
Bureau of Entomology and Plant Quarantine.

The larvae of the genus *Hermetia* are scavengers, feeding mostly in decayed vegetable matter but often breeding in decayed animal matter. So far as known they are not carriers of disease. The larvae have been found in various kinds of decayed fruits and garbage, also in trunks of decaying palm trees, sauerkraut, raw rubber, camp latrines, outdoor toilets,